Protect the Force through
RISK MANAGEMENT
Leaders save soldiers
IPR8-328

Chief of Staff of the Army:

"Step Up to the Plate"

It's the invincibility of youth that makes our Army great, but these are the same soldiers who are strapping on our weapon systems and vehicles.

It's a long way from the front office to the cab of a vehicle.

Our challenge is to get the safety program to the soldier behind the wheel.

TERMINAL LEARNING OBJECTIVE

ACTION: Apply the risk management process to daily operations

ELOs:

- **Identify three categories of cause factors**
- **Define reasons for human error**
- **Identify guidance for Risk Management**
- **Identify hazards using appropriate**

TERMINAL LEARNING OBJECTIVE CONT:

ACTION: Apply the risk management process to daily operations

ELOs:

- **Determine risk levels**
- **Determine control options**
- **Determine implementation, supervision and evaluation methods**
- **Identify risk management info**

Battle & Non-Battle Casualties

Rate* per 1,000 soldiers and percent

Army	W.W.II 1942-45	Korea 1950-53	Vietnam 1965-72	DS/S 1990-91	NTC FY93 (BLUFOR-GROUND)
Accident	95.57 56%	120.33 44%	154.66 54%	11.14 75%	2.23 3%
Friendly Fire	1.50*** 1%	3.03*** 1%	2.67*** 1%	.68 5%	7.87**** 9%
Enemy Action	73.61 43%	148.56 55%	131.20 45%	2.90 20%	74.17**** 88%

* Per 12 months for W.W.II, Korea and Vietnam; 14 months for DS/S; per rotation NTC.
** Deaths and injuries (ground and aviation) for entire war/operation.
*** Research based estimate (2% of all direct- and indirect- fire losses).
**** Simulated (MILES) direct fire vehicle kills.

PURPOSE

As a leader, you will be able to apply Risk Management to your daily operations.

Accident Cause Factors
HUMAN
MATERIEL
ENVIRONMENT

Cause Factors

- ***Human Error* - an individual's actions or performance is different than what is required and results in or contributes to an accident.**
- ***Materiel Failure/Malfunction* - a fault in the equipment that keeps it from working as designed, therefore causing or contributing to an accident.**
- ***Environmental Conditions* - any natural or manmade surroundings that negatively affect performance of individuals, equipment or materials and causes or contributes to an accident.**

Sources of Human Errors

***Individual Failure* - Soldier knows and is trained to standard but elects not to follow the standard (self-discipline).**

***Leader Failure* - Leader does not enforce known standard.**

***Training Failure* - Soldier not trained to known standard (insufficient, incorrect or no training on task).**

***Standards Failure* - Standards/procedures not clear or practical, or do not exist.**

***Support Failure* - Equipment/material improperly designed/not provided.**

Sources - Examples

Individual Failure - **Soldier knows there is a requirement to be certified on servicing tires and although he isn't certified, he attempts to service the tire anyway so he won't have to wait for maintenance personnel. "Can't be that hard."**

Leader Failure - **Supervisor sees the soldier changing the tire and doesn't stop him.**

Training Failure - **Soldier has never had any training on how to service split rims and didn't know that a tire cage and air extension is required for inflation.**

Sources - Examples

***Standards Failure* - The unit SOP requires the use of a tire cage, however it does not require the use of a twelve foot air gauge extension.**

Support Failure - The unit tire cage was not properly constructed and the unit does not have a twelve foot extension for the air gauge.

Mission: Inflate HEMTT tire to proper pressure

27 July 99

Hazards

- Improper body position
- Not following proper tire inflation procedures
- Inadequate organizational maintenance
- Insufficient BII

Result

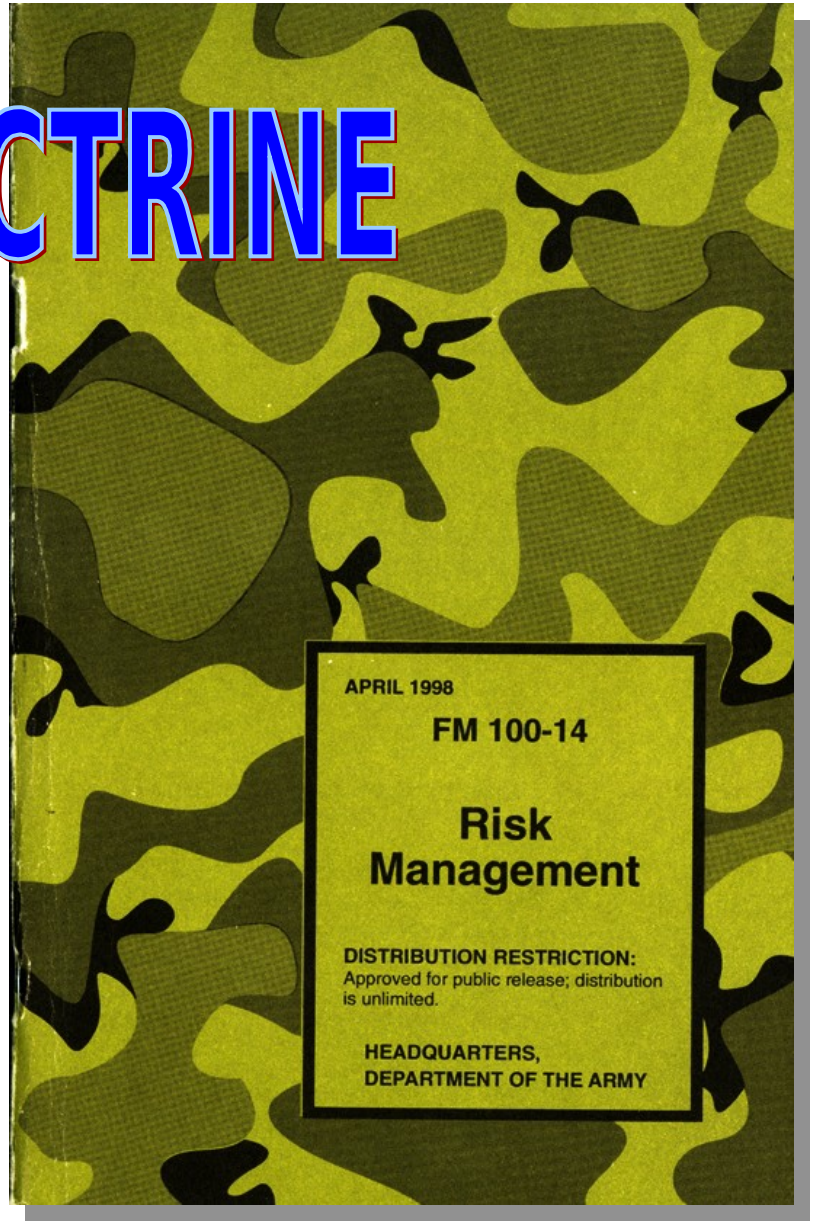
- 1 Fatality

Controls

- Maintain proper body position
- Ensure compliance with TM, SOP
- Enforce maintenance standards
- Supervisor ensure issue of proper BII

POLICY AND DOCTRINE

- DODI 6055.1 OH Safety and Health Program
- AR 385-10, Army Safety Program
- FM 101-5, Staff Organizations and Operations
- FM 100-14, Risk Management



RISK MANAGEMENT

The process of identifying, assessing, and controlling hazards arising from operational factors and making decisions that balance the risk costs with mission benefits.

RISK MANAGEMENT
It is a systematic five-step process that can be applied to any situation, program, or environment.

RISK MANAGEMENT

The standard for Risk Management is an informed decision at the appropriate level.

It is NOT an excuse to not do a mission.

Risk Management Concept

Risk management is a systems-based concept.

Originally developed to improve safety in the development of weapons, aircraft, space vehicles, and nuclear power.

Risk Management Concept

Not just **“common sense”** or **“something good leaders have always done.”**

It is an important **tool!**

The level of detail that goes into the process depends on the time available and the extent of the risk.

Gambling vs Risk Management

- Bold, aggressive leaders and risk takers are needed, admired, and endorsed in the Army.
- Gamblers, if they are successful, are hard to separate from the bold risk taker.
- Sooner or later the gambler loses!

Gambling vs Risk Management

The key difference between the gambler and the bold risk taker is that *the risk managing leader can reasonably predict the outcome*.

The gambler is only guessing.

Gambling vs Risk Management

So what is the difference between a gambler and a risk manager?

Is it the RESULT? NO

Is it the DECISION? NO

Is it the PROCESS? YES!

Gambling vs Risk Management

A gambler will perform an operation without regard to the risk.

The risk manager evaluates risk vs benefit. He will put controls on the risks and make the soldiers involved in the operation aware of the risks and his controls.

Mission: Conduct Night Airborne Operation

14 Apr 99

Hazards

- Failure to properly risk manage operation
- Failure to ensure training area is authorized
- Inadequately trained personnel
- Failure to provide mandatory safety equipment
- Failure to confirm training requirements

Results

- 1 Fatality
- 2 Minor injuries

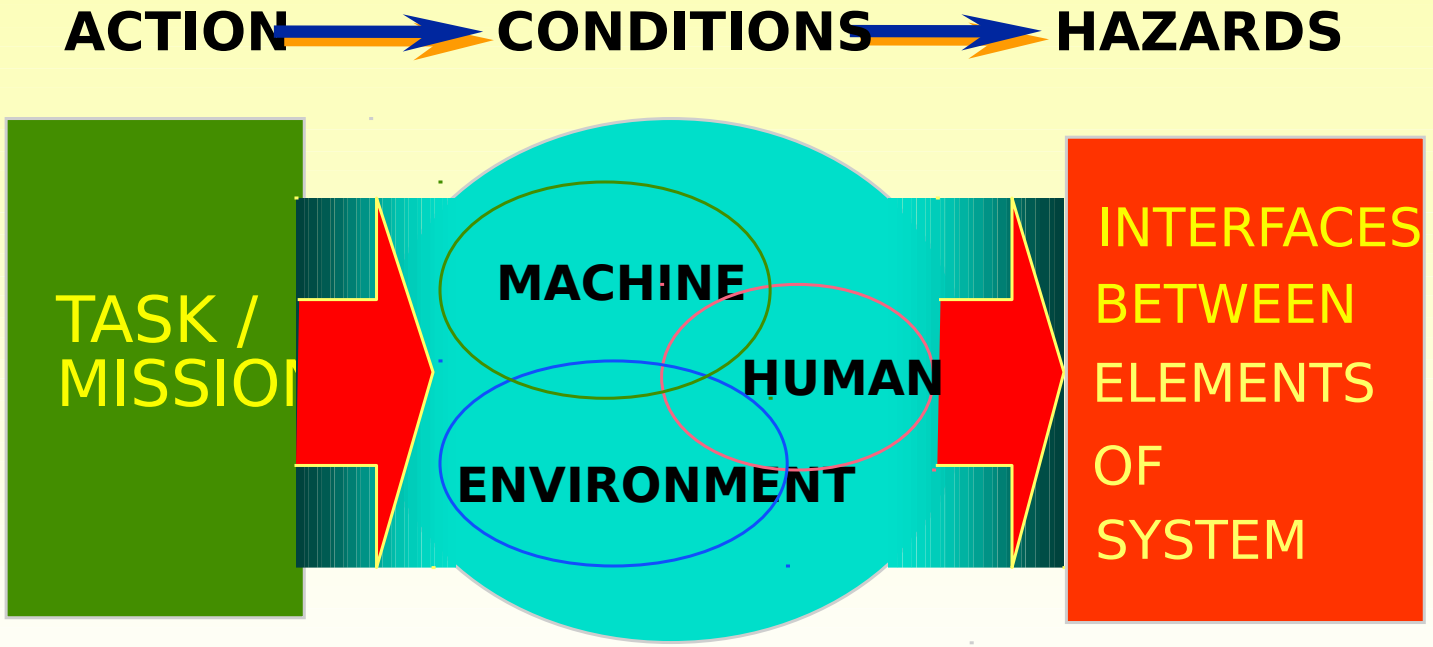
Controls

- Ensure adequate risk management training
- Properly assess and mitigate all risks
- Follow all procedures in ARs and TMs
- Select only trained personnel to conduct missions

STEP 1: IDENTIFY HAZARDS

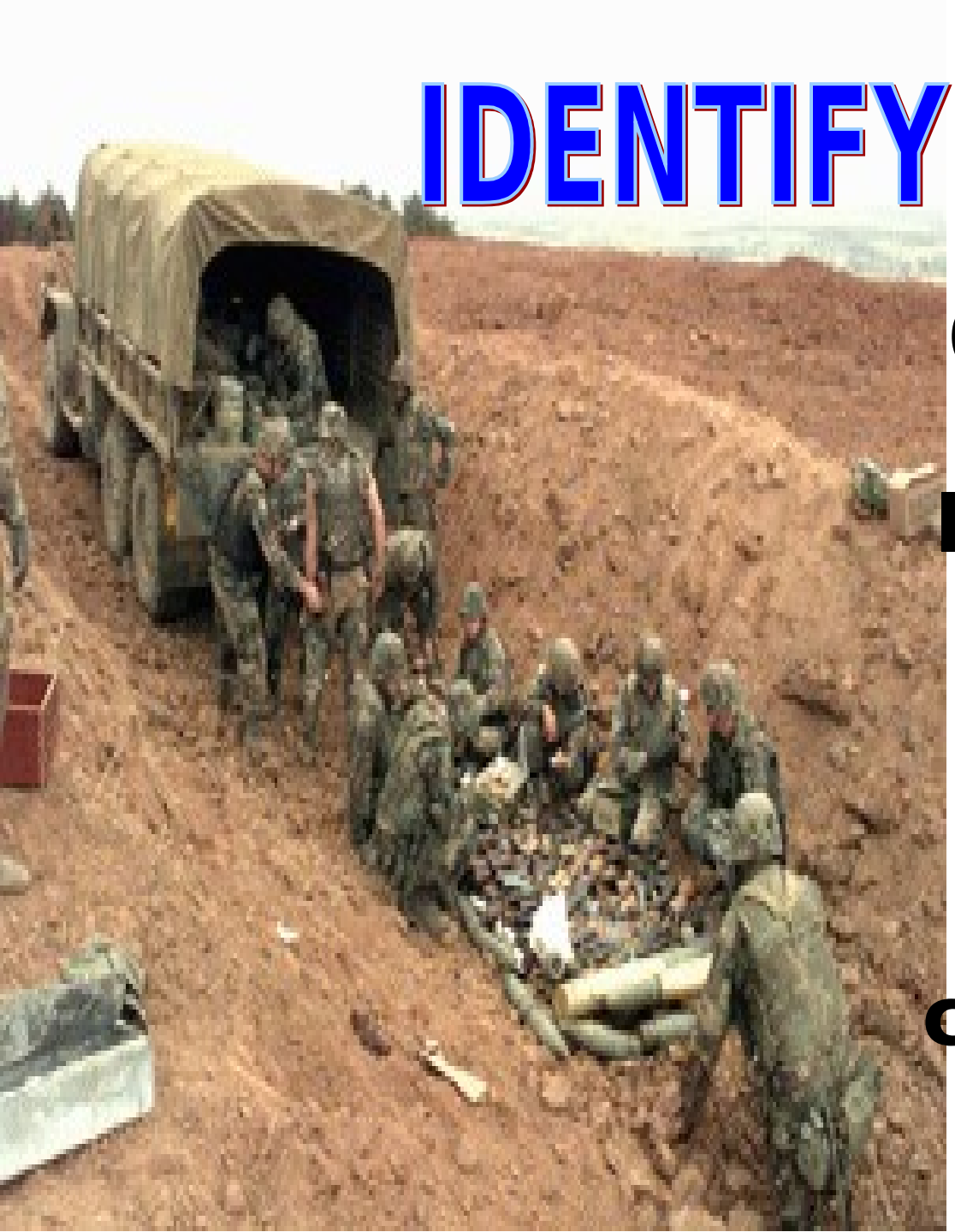
- ***Identify Hazards.*** Identify hazards to *protect the force*. Consider all aspects of current and future situations, environment, and known historical problem areas.

What are Hazards?



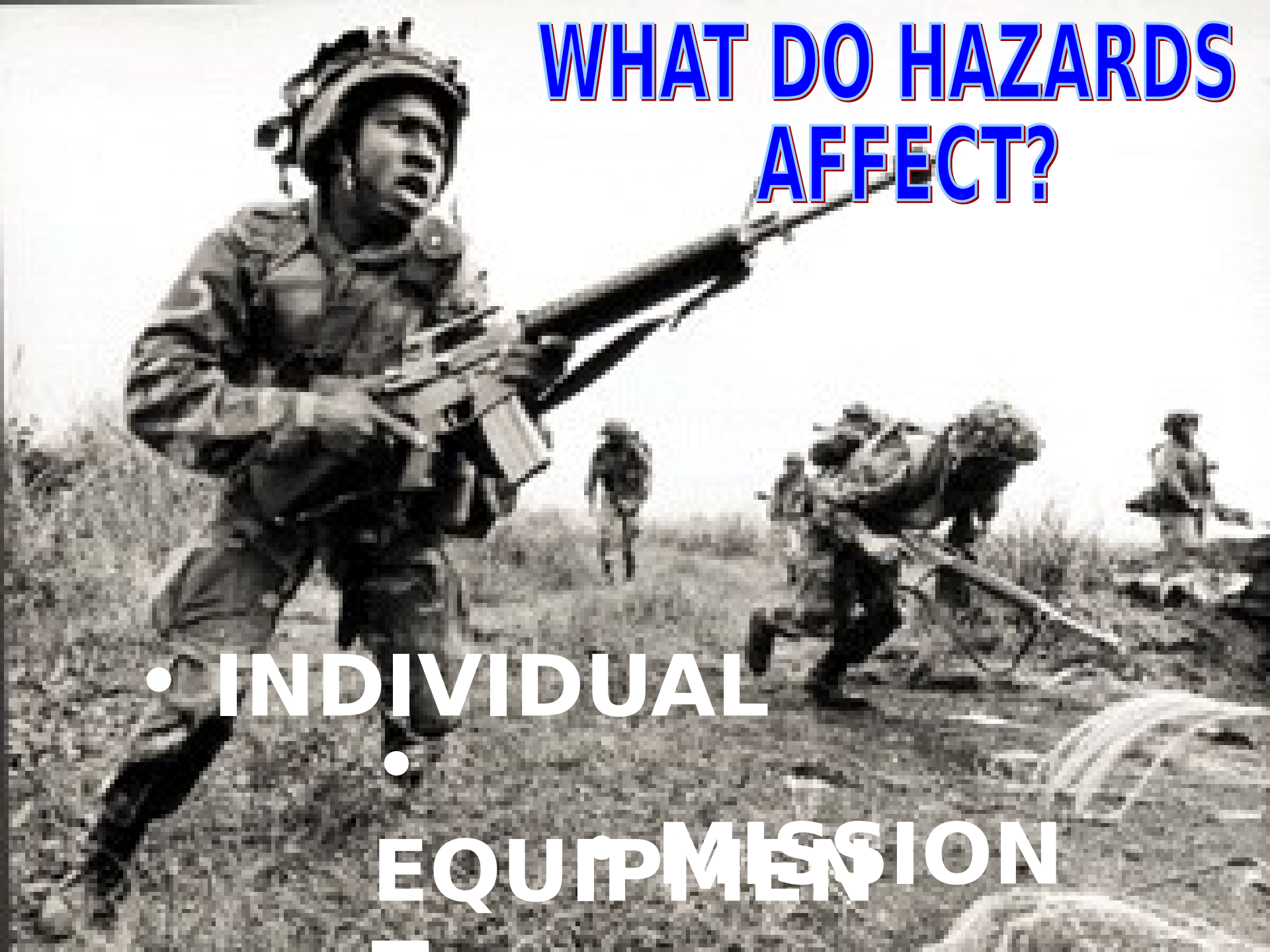
Hazard: **Any real or potential condition that can cause injur**
illness, or death of personnel, damage to or loss of equipment
or property, or mission degradation.

IDENTIFY HAZARDS



OBJECTIVE

Identify those hazards most likely to result in loss of combat power.


WHAT DO HAZARDS AFFECT?
• INDIVIDUAL
•
EQUIPMENT
MISSION

IDENTIFY HAZARDS - HOW

- EXPERIENCE
  - HISTORICAL DATA
  - INTUITIVE ANALYSIS
  - JUDGMENT

TOOL: METT-T MODEL

Example

Mission **- Specified, implied and subtasks.**

Enemy **- Size and capability (SALUTE).**

Troops and Equipment **-**

-- Troops - training, type, number, and physical condition.

-- Equipment - amount, type, design, and condition.

Terrain/Weather **- Environmental conditions.**

Time **available - plan, rehearse, and conduct .**

Hazard ID Tool

Example

	Adequate YES	NO
- Support - Is type/amount/capability/condition of support adequate to carry out the mission? - Personnel - Equipment/material - Supplies - Services/facilities		
- Standards - Is guidance/procedure adequately clear/ practical/specific to the mission?		
- Training - Is training adequately thorough and recent?		
- Leader - Are leaders ready, willing and able to enforce standards.		
- Individual/Unit - Is the soldier/unit prepared and rested sufficiently to perform the mission?		

Detection Resources and Techniques

- Brain Storming
- Experts
- Publications
- Accident Information
- Scenario Thinking

WHILE YOU ARE DOING THIS

TROOP LEADING PROCEDURES
- **RECEIVE THE MISSION**
- **ISSUE THE WARNING ORDER**
- **MAKE A TENTATIVE PLAN**

DO THIS

IDENTIFY HAZARDS

PRACTICAL EXERCISE

(SOLUTION PE SCENARIO)

RISK MANAGEMENT WORKSHEET

PAGE 1 of 1

1. MSN/TASK: PERFORM TACTICAL ROADMARCH (ARTEP 7-8MTP)	2. DTG BEGIN: 060700JunXX END: 061300JunXX	3. DATE PREPARED: 051200JunXX
4. PREPARED BY: 2LT CAMPBELL, PLATOON LEADER RANK/LAST NAME/DUTY POSITION		

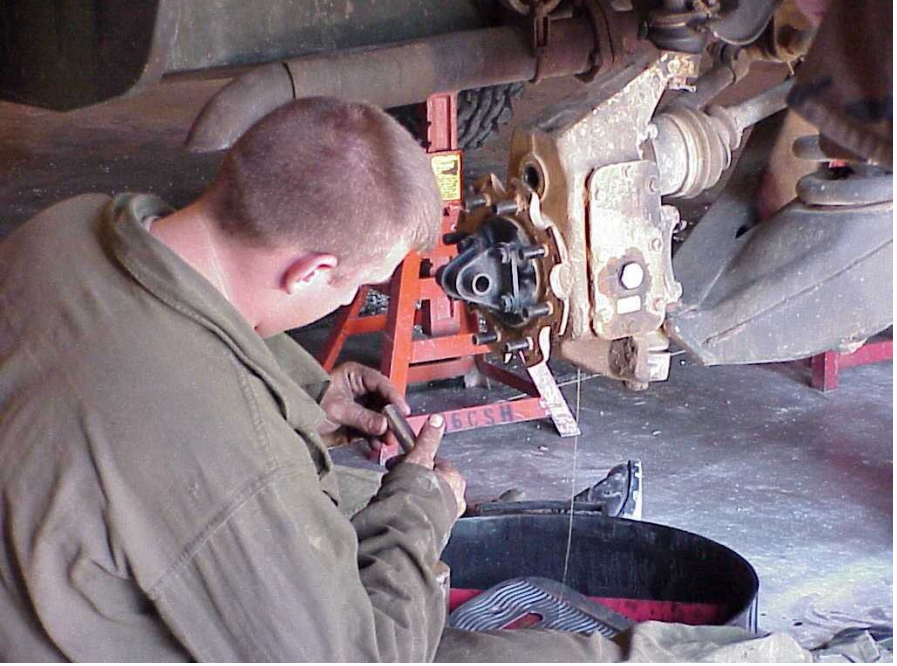
5. HAZARDS	6. INITIAL RISK LEVEL	7. CONTROLS	8. RESIDUAL RISK LEVEL	11. HOW TO IMPLEMENT	12. HOW TO SUPERVISE	13. CONTROLS EFFECTIVE
Enemy dismounted patrols						
Rough terrain - Uneven, small hills, vegetation						
Adverse environmental conditions - Weather (humid & hot)						
Insufficient amount of qualified personnel - (Combat Lifesavers)						

9. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (CIRCLE ONE) LOW MODERATE HIGH EXTREMELY HIGH	10. RISK DECISION AUTHORITY: RANK/LAST NAME/DUTY POSITION

STEP 2: ASSESS HAZARDS

Risk Management Process

- ***Assess <u>Hazards.</u>*** _Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss and cost, <u>based on probability and severity.</u>



ASSESS HAZARDS - HOW

- HISTORICAL DATA
- INTUITIVE ANALYSIS JUDGMENT
- TOOL

ASSESSMENT TOOL

RISK ASSESSMENT MATRIX

E - EXTREMELY HIGH RISK
H - HIGH RISK
M - MODERATE RISK
L - LOW RISK

SEVERITY	PROBABILITY				
	FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
CATASTROPHIC	E	E	H	H	M
CRITICAL	E	H	H	M	L
MARGINAL	H	M	M	L	L
NEGLIGIBLE	M	L	L	L	L

Frequent - Occurs often, continuously experienced.

Likely - Occurs several times.

Occasional - Occurs sporadically.

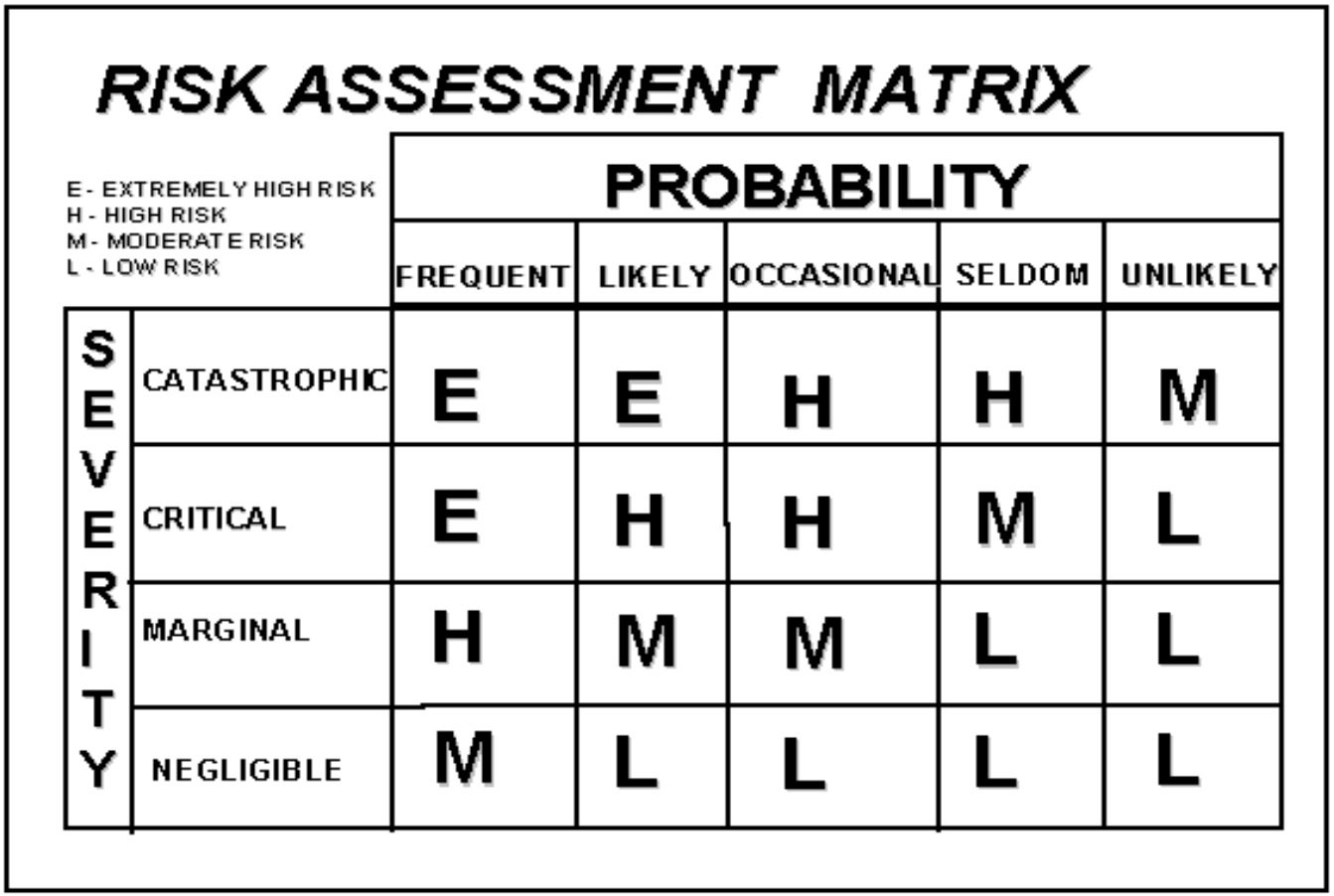
Seldom - Unlikely, but could occur at some time.

Unlikely - Can assume it will not occur.

SEVERITY

SEVERITY	
Catastrophic	Death or permanent total disability, system loss, major property damage.
Critical	Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.
Marginal	Minor injury, lost workday accident, compensable injury or illness, minor system damage, minor property damage.
Negligible	First aid or minor supportive medical treatment, minor system impairment.

ASSESSMENT TOOL



RISK ASSESSMENT MATRIX

E - EXTREMELY HIGH RISK
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SEVERITY	PROBABILITY				
	FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
CATASTROPHIC	E	E	H	H	M
CRITICAL	E	H	H	M	L
MARGINAL	H	M	M	L	L
NEGLIGIBLE	M	L	L	L	L

TERMINOLOGY

Risk Assessment

the identification and assessment of hazards *first two steps of the risk management process*

WHILE YOU ARE DOING THIS

TROOP LEADING PROCEDURES

- **MAKE A TENATIVE PLAN**
- **MAKE AN ESTIMATE OF THE SITUATION**
- **DEVELOP SITUATION AND COA**
- **ANALYZE COURSES OF ACTION**
- **DETAILED MISSION ANALYSIS**

DO THIS

ASSESS THE HAZARDS

Don't Take Unnecessary Risk

PRACTICAL EXERCISE

Initial Risk Assessment

(SOLUTION PE SCENARIO)

RISK MANAGEMENT WORKSHEET

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Enemy dismounted patrols	E					
Rough terrain - Uneven, small hills, vegetation	M					
Adverse environmental conditions - Weather (humid & hot)	H					
Insufficient amount of qualified personnel - (Combat Lifesavers)	H					

9. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (CIRCLE ONE)

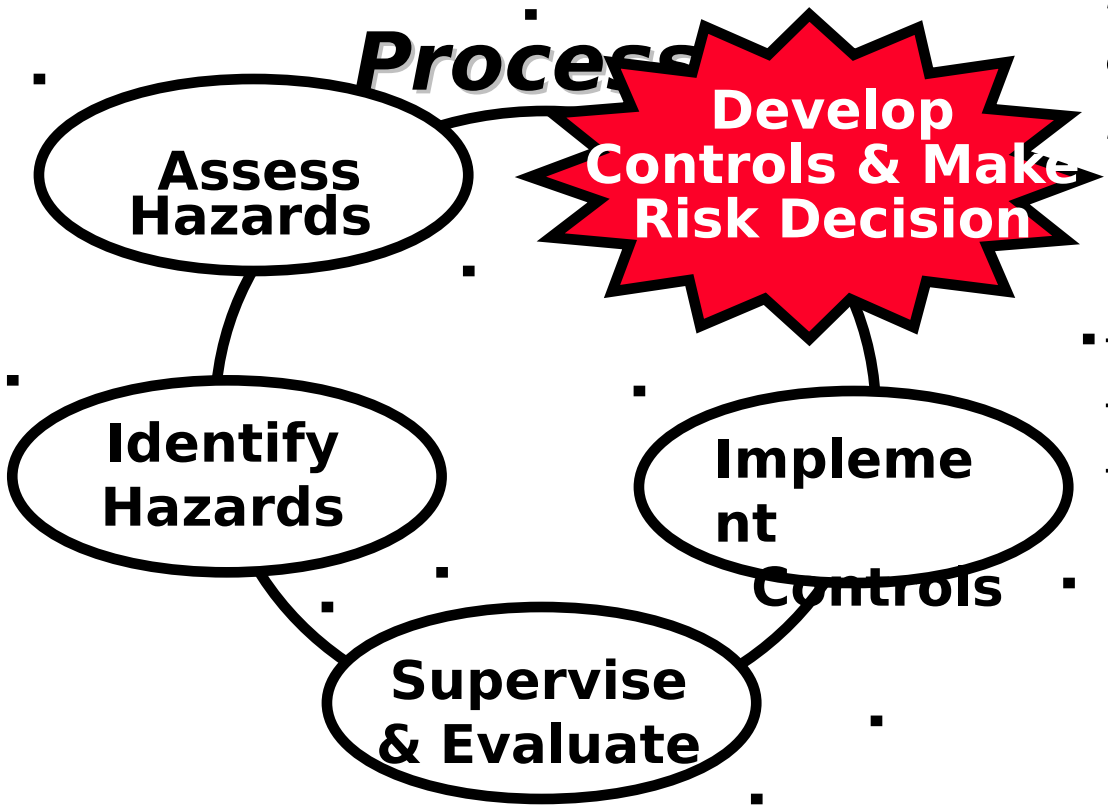
LOW MODERATE HIGH EXTREMELY HIGH

10. RISK DECISION AUTHORITY:

RANK/LAST NAME/DUTY POSITION

STEP 3: DEVELOP CONTROLS & MAKE DECISION

Risk Management Process



- ***Develop Controls and Make Risk Decisions.*** Develop control measures that eliminate the hazard or reduce its risk to an acceptable level. As control measures are developed, risks are reevaluated until all risks are reduced to a level where benefits outweigh potential cost.

DEVELOP CONTROLS

Consider:

- **Are controls established?**
- **Is the control practical and in line with regulatory requirements?**
- **Does the control create a new hazardous condition?**
- **Is the control within authority level?**

Question: **Has the control affected probability or severity or both?**

TOOL

Example

Are the controls adequate?

	Adequate YES	NO
- Support - Is type/amount/capability/condition of support adequate to carry out the mission? - Personnel - Equipment/material - Supplies - Services/facilities		
- Standards - Is guidance/procedure adequately clear/ practical/specific to the mission?		
- Training - Is training adequately thorough and recent?		
- Leader - Are leaders ready, willing and able to enforce standards.		
- Individual/Unit - Is the soldier/unit prepared and rested sufficiently to perform the mission?		

RESIDUAL AND MISSION RISK LEVELS

#1 Determine anticipated residual risk for <u>each hazard</u> as if the control is in place.

Should never be higher than the initial risk.

#2 Determine the overall mission risk level. **Will not be lower than the highest residual risk.**

MAKE RISK DECISION

- Make an informed risk decision at the *appropriate level* of command.
- Accept risks *only* if the *benefits* outweigh the costs or losses.

- If the risk is too high, *reject* COA or *elevate* to next decision level.

WHILE YOU ARE DOING THIS

TROOP LEADING PROCEDURES

- **COMPARING COURSES OF ACTION**
- **MAKING DECISION**
- **EXPANDING SELECTED COA INTO A TENTATIVE PLAN**

DO THIS

DEVELOP CONTROLS AND MAKE RISK DECISION

the difference between low and e-high risk is..

PRACTICAL EXERCISE

Develop Controls/ Establish Residual Risk

(SOLUTION PE SCENARIO)

RISK MANAGEMENT WORKSHEET

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Enemy dismounted patrols	E	Rehearse near/far ambushes and actions on contact	H			
Rough terrain - Uneven, small hills, vegetation	M	Pre mission brief by squad leaders. Recon route for best accessibility	L			
Adverse environmental conditions - Weather (humid & hot)	H	Hydration by all personnel prior to and during roadmarch Establish water resupply point along route Closely monitor previous heat casualties	M			
Insufficient amount of qualified personnel - (Combat Lifesavers)	H	Attach company combat medic to platoon				

9. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (CIRCLE ONE)
LOW MODERATE HIGH EXTREMELY HIGH

10. RISK DECISION AUTHORITY: CPT BOOTLEG, COMMANDER
RANK/LAST NAME/DUTY POSITION

STEP 4: IMPLEMENT CONTROLS

- ***Implement Controls.***

Put controls in place that eliminate the hazards or reduce their risks.

IMPLEMENTATION METHODS

- Regulations, policy letters, and SOPs
- Orders
- Briefings and back-briefs
- Training
- Rehearsals
- Design of new equipment

WHILE YOU ARE DOING THIS
TROOP LEADING PROCEDURES
- INITIATING MOVEMENT
- RECONNOITERING
- COMPLETING THE PLAN
- ISSUING THE ORDER
DO THIS
IMPLEMENT CONTROLS

STEP 5: SUPERVISE & EVALUATE

- ***Supervise & Evaluate***.

  Perform to, and enforce standards and controls. Evaluate the effectiveness of controls and adjust/ update as necessary.

EVALUATE

- Conducted during the execution phase of an operation.
- Conducted formally after the operation. Should be considered as mission planning for the next iteration of that task or

WHILE YOU ARE DOING THIS

TROOP LEADING PROCEDURES
- SUPERVISE AND REFINE THE PLAN

DO THIS

SUPERVISE AND EVALUATE

PRACTICAL EXERCISE

Implement, Supervise, and Evaluate

(SOLUTION PE SCENARIO)

RISK MANAGEMENT WORKSHEET

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Enemy dismounted patrols	E	Rehearse near/far ambushes and actions on contact	H	FRAGO & REHEARSAL	Direct Sprv	
Rough terrain - Uneven, small hills, vegetation	M	Pre mission brief by squad leaders Recon route for best accessibility	L	TACSOP & FRAGO OPORD	Spot Check Direct Sprv	
Adverse environmental conditions - Weather (humid & hot)	H	Hydration by all personnel prior to and during roadmarch Establish water resupply point along route Closely monitor previous heat casualties	M	SOP OPORD SOP & VERBAL ORDER	Spot Check Direct Sprv Cont Sprv Buddy Sys	
Insufficient amount of qualified personnel - (Combat Lifesavers)	H	Attach company combat medic to platoon		OPORD	Direct Sprv	

9. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (CIRCLE ONE)
LOW MODERATE HIGH EXTREMELY HIGH

10. RISK DECISION AUTHORITY: **CPT BOOTLEG, COMMANDER**
RANK/LAST NAME/DUTY POSITION

RISK MANAGEMENT PROCESS

http://safety.army.mil

Home RMIS CP-12 Guidance People Training Media Tools Links Help
United States Army Safety Program
Safety Program
Risk Management
Accident Overview
Army Home Page
Introducing our Help Desk
(Click Here)
DASAF: The Next Steps
It is an unequivocal fact that a disciplined force trained to standard equals a combat ready force that conducts the mission safely. Risk management affords us the capability to conduct tough, realistic training and operational missions while minimizing losses due to accidents. (more).
Leaders Make A Difference!
- BG Gene M. LaCoste
RMIS Update
If you've been following the progress of our links to accident data, you may have noticed that we've fallen behind our schedule for deploying tools. You may also have noticed the slow performance from the tools that we have provided. We at the Safety Center are aware of these problems and are working frantically to resolve our shortcomings. We continue to make progress and are moving
Quick View
August 1999 Flightfax (495k)
HMMWV Safety Review
War Stories: Welcome to Hell
Ammo Magazine Grounding Requirements
AMCOM Staff Receives Army Safety Program Update
Safety and Occupational Health Course Catalog June 1999
Safety Today Jul/Aug 1999 (234k Word Doc)
July 1999 Countermeasure (932k PDF)
July CAPP Report

Home | RMIS | CP-12 | Guidance | People | Training | Media | Tools | Links | Help

United States Army Safety Program

- Safety Program
- Risk Management
  - Overview
  - RMIS
  - POV Information
- Accident Overview
- Army Home Page

Risk Management

Last Update 08/02/99

"Risk Management is the Army's principle risk-reduction process to protect the force. Our goal is to make risk management a routine part of planning and executing operational missions." - *Chief of Staff, Army; July 1995*

Click to view

POC: George Greenauer (greenaug@safety-emh1.army.mil)
POC: MSG Adams (adamsp@safety-emh1.army.mil)

Overview

- Philosophy
- Terms
- Process
- Standard

Integration

- Integration Process
- Policy
- Training
- Information
- Leadership
- Tools

ADDITIONAL SOURCES

- ARMY PUBS LIBRARY
  (http://books.army.mil/cgi-bin/bookmgr/Shelves)
  - Army Regs and Pams

- TRADOC LIBRARY
  (http://www.adtdl.army.mil/atdls.htm)
  FMs, TCs, CTTs, MTPs, TSPs

- CALL LIBRARY
  (http://call.army.mil)
  - Newsletters
  - Lessons Learned
  - Bulletins and Trends (CTCs)

TOOLS AND REFERENCES

- **ARMY SAFETY HOME PAGE (http://safety.army.mil)**
  - **-ARMY SAFETY PROGRAM**
  - **-ARMY STATISTICS**
  - **-RM TOOLS**
- **RISK MANAGEMENT INFORMATION SYSTEM (http://rmis.army.mil)**
  - **-HAZARDS BY SYSTEM**
  - **-ACCIDENT OVERVIEWS**
  - **-DATABASE INFORMATION**
  - **-MESSAGES**
- **HELP DESK (helpdesk@safety.emh1.army.mil)**
  - **-(334) 255-1390 or DSN 558-1390**

RMIS- Risk Management Information System - Microsoft Internet Explorer
File Edit View Go Favorites Help
Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit
Address F:\rmiscdfull\index.html
Links
Note: This site is under development. Accident data provided is test data for demonstration purposes only.
DO NOT USE as official Army accident statistics.
Welcome to RMIS
U.S. ARMY SAFETY CENTER
RISK MANAGEMENT INFORMATION SYSTEM
User:
Password:
Request ID
Army Safety Program
Login
Please Read this Privacy and Security Notice
Requirements for accessing the Risk Management Information System (RMIS):
My Computer

RMIS Demo - Microsoft Internet Explorer

File Edit View Go Favorites Help

Back Forward Stop Refresh Home Search Favorites History Channels Fullscreen Mail Print Edit

Address F:\rmiscdfull\rmisdemo.html Links

Home | Army Safety | CP-12 | Guidance | People | Training | Media | Tools | Links | Slides

RMIS Risk Management Information System

- Manage Risks
  - By Systems
    - Aircraft
    - POV
    - Tracked Vehicle
    - Wheeled Vehicles
    - Weapons
    - Explosives
    - Personnel
    - Missiles
    - Other
  - By Operations
  - Corps/Div/MACOM
  - Lessons Learned
  - Own the Night
  - Overview
- Accident Overview
- Databases
- Messages

AH-64

AH-1

UH-60

UH-1

CH-47

OH-58

All AIRCRAFT: Select an Aircraft

Done My Computer

'Risk management is the Army's principal risk-reduction process to protect the force. Our goal is to make risk management a routine part of planning and executing operational missions.'

Chief of Staff, Army, July 1995

Goal: Total Integration

EMBED RISK MANAGEMENT PROCESS

PROGRAMS & PROCESSES

Process

The Process of identifying and controlling hazards to protect the force

5 Steps

Tools

Matrix

Requirements

INDIVIDUALS

RMIG9

To get credit for this training

To receive credit for this briefing, click HERE